

DL2 and CBD4, CBD5, CBD6 systems



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WWW.LINAK.COM

LINAK® 
WE IMPROVE YOUR LIFE

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Preface

We are delighted that you have chosen a product from LINAK A/S. LINAK systems are high-tech products based on many years of experience in the manufacture and development of actuators, electronic control boxes, controls, and chargers. We are also constantly improving our products to meet customer requirements.

This User Manual will tell you how to install, use and maintain your LINAK DESKLINE® products.

We are sure that the DESKLINE products will give you many years of problem-free operation. Before our products leave the factory they undergo full function and quality testing. Should you nevertheless experience problems with your systems, you are always welcome to contact our service departments or service centres.

LINAK subsidiaries and distributors all over the world have authorised service centres, which are always ready to help you.

LINAK provides a warranty on all its products. This warranty, however, is subject to correct use in accordance with the specifications, maintenance being done correctly and any repairs being carried out at a service centre, which is authorised to repair LINAK products.

Changes in installation and use of LINAK systems can affect their operation and durability. Changes must therefore only be made by agreement with LINAK A/S and are made at your own risk.

LINAK A/S

Important information

Important information on LINAK® products can be found under the following headings:



Warning!

Failure to comply with these instructions may result in accidents involving serious personal injury.



Failing to follow these instructions can result in the product being damaged or being destroyed.

Safety instructions



Safe use of the system is possible only when the operating instructions are read completely and the instructions contained are strictly observed.

Failure to comply with instructions marked with the "NOTE" symbol may result in serious damage to the system or one of its components.

Persons who do not have the necessary experience or knowledge of the product/ products must not use the product/ products. Besides, persons with reduced physical or mental abilities must not use the product/products, unless they are under surveillance or they have been thoroughly instructed in the use of the apparatus by a person who is responsible for the safety of these persons.

Moreover, children must be under surveillance to ensure that they do not play with the product.



It is important for everyone who is to connect, install, or use the systems to have the necessary information and access to this User Manual.



If there is visible damage to the product it must not be installed.



The appliance is not intended for use by young children or infirm persons without supervision.



Young children should be supervised to ensure that they do not play with the appliance.

Before installation, re-installation, or troubleshooting

- Stop the DL2
- Switch off the power supply and pull out the mains plug.
- Relieve the DL2 of any loads, which may be released during the work.

Before start-up:

- Make sure that the system has been installed as instructed in this User Manual.
- Make sure that the voltage of the control box is correct before the system is connected to the mains.

(continued)

- System connection. The individual parts must be connected before the control box is connected to the mains. See the User Manual for LINAK actuators, if necessary.

During operation:

- If the control box makes unusual noises or smells, switch off the mains voltage immediately.
- Take care that the cables are not damaged.
- Unplug the mains cable on mobile equipment before it is moved.
- The products must only be used in an environment, that corresponds to their IP protection.

Repairs

In order to avoid the risk of malfunction, all DESKLINE® repairs must only be carried out by authorised LINAK workshops or repairers, as special tools must be used and special gaskets must be fitted. Lifting units under warranty must also be returned to authorised LINAK workshops.



Warning!

If any of the DESKLINE® products are opened, there will be a risk of subsequent malfunction.



Warning!

The DESKLINE® systems do not withstand cutting oil.



DECLARATION OF INCORPORATION OF PARTLY COMPLETED MACHINERY

LINAK A/S
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DK - 6430 Nordborg

Name and address of the person authorized to compile the relevant technical documentation:
John Kling, Group Headquarters, Gudrup, DK-6430 Nordborg, email jd@linak.com

Hereswith declares that LINAK Actuators and Actuator Systems comply with the following parts of the Machinery Directive 2006/42/EC, ANNEX I, Essential health and safety requirements relating to the design and construction of machinery.
1.5.1 Electricity supply: Directive 2006/95/EC on the harmonization of the laws of Member States relating to electrical equipment designed for use within certain voltage limits.
1.5.10 Radiation, 1.5.11 External radiation: Directive 2004/108/EC on the approximation of the laws of the Member States relating to electromagnetic compatibility.

The relevant technical documentation is compiled in accordance with part B of Annex VII and that this documentation or part hereof will be transmitted by post or electronically to a reasoned request by the national authorities.

This partly completed machinery must not be put into service until the final machinery into which it is to be incorporated has been declared in conformity with the provisions of this Directive, where appropriate.

Date: 2010-01-01

Signature:

John Kling
Certification and Regulatory Affairs

Misc. on the DESKLINE® system

Warranty

There is a 36 months' warranty on the DESKLINE products against manufacturing faults from the production date of the individual products (see label).

LINAK A/S' warranty is only valid in so far as the equipment has been used and maintained correctly and has not been tampered with. Furthermore, the system must not be exposed to violent treatment. In the event of this, the warranty will be ineffective/invalid. For further details, please see LINAK A/S ordinary conditions of sale.

Maintenance

Clean dust and dirt on the outside of the system at appropriate intervals and inspect them for damage and breaks.

Inspect the connections, cables, and plugs and check for correct functioning as well as fixing points.

Service of double-insulated products:



Class II

A Class II or **double insulated** electrical appliance is one which has been designed in such a way that it does not require a safety connection to electrical earth (US: ground).

The basic requirement is that no single failure can result in dangerous voltage becoming exposed so that it might cause an electric shock and that this is achieved without relying on an earthed metal casing. This is usually achieved at least in part by having two layers of insulating material surrounding live parts or by using reinforced insulation.

There is no earthing/grounding means provided on the product, and no earthing/grounding means is to be added to the product.

In Europe, a double insulated appliance must be labelled "Class II", "double insulated" or bear the double insulation symbol (a square inside another square). Servicing a double-insulated product requires extreme care and knowledge of the system, and is to be done only by qualified service personnel. Replacement parts for a double-insulated product must be identical to the parts they replace.



The cleaners and disinfectants must not be highly alkaline or acidic (pH value 6-8).

Description of the DESKLINE® system

Each DESKLINE® actuator/column is equipped with a motor and parallel/memory drive is ensured by means of software in the CBD4/CBD5/CBD6 that also takes account of an uneven load on the desk. Soft start and stop are also part of this software, which ensures a soft start and stop when adjusting the desk.

Application of the DESKLINE® system:

Irrespective of the load the **duty cycle max. 5% ~ 1 min./ 19 min., max. 1 min. at continuous use followed by 19 min. pause** stated in the data sheets, must **NOT** be exceeded as this will result in an overheating of the motor and control box. Exceeding the duty cycle will result in a dramatic reduction of the life of the system.

The system range contains the following products:

- 1 control box CBD4/CBD5/CBD6
- 1, 2, 3 or 4 DL2 lifting columns
- 1 exchangeable mains cable
- motor cables (1 - 4 (4))
- 1 DP1U/DPF1M (if memory function is required) DP1C/WDPL/DPT/DPF1C (if memory function and display is required) or 1 DPA/DPB/DP1K/DP1V/DPFK/DPF1K (if only up/down is required.)

Mounting guidelines for DL2 with control box

The DL2 column is supplied with either 8 mm end plates or 3 mm end plates.

8 mm end plates:

For mounting on the desk frame there are 4 holes for M10 bolts. It is recommended to use all 4 bolts.

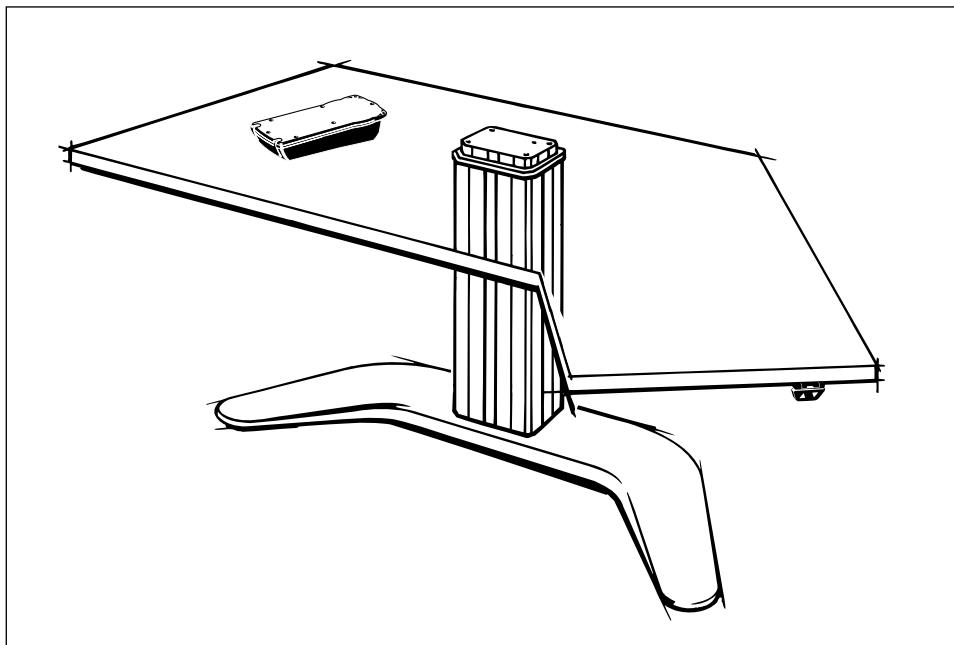
3 mm end plates:

For mounting on the desk frame there are 4 holes in the column for DG 80 x 35 screws. It is recommended to use all 4 screws.

As the table top amplifies the sound we advise you to place a vibration/shock-absorbing material between the table top and the table frame.

The outer profile of the DL2 column has tracks, which can be used for mounting a bracket. The mounting bracket can be used for e.g.:

- Mounting a customised cover (for encapsulation of the DL2).
- Mounting of a computer



*Figure 1
Example of how to mount a DL2 system*

Bending moment

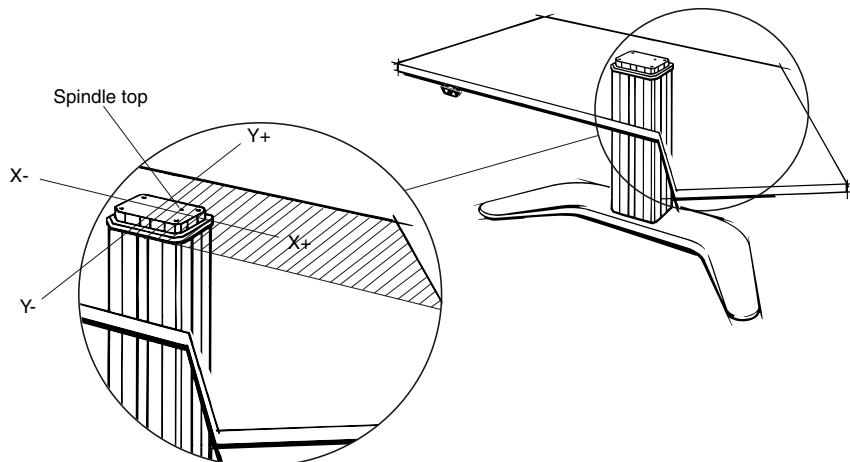


Figure 2

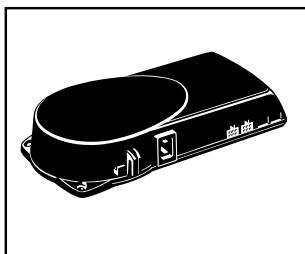
To limit the influence from the bending moment it is recommended to place the heaviest load in the shaded area (see figure 2) in which the spindle is placed. The spindle part is placed in the same side as the cable outlet.
See the DL2 data sheet for further information regarding bending moment.



LINAK recommends that the DESKLINE® system should be used in push applications.

Mounting guidelines CBD4/CBD5/CBD6

The control box is to be fastened with 4 screws (3 screws for CBD5 and CBD6) with a head diameter between ø 8 and ø 10 mm. Out of regard for the tension surface ø 10 mm is preferable due to lower surface tension. See drawing appendix for placing of mounting holes and the space the CBD takes up.



CBD4 - Control box



CBD5 - Control box



CBD6 - Control box

The CBD must not be packed in heat insulating material, but must be placed so that it can emit waste heat into the surroundings. There are no ventilation holes to consider, the CBD emits heat through the surface.

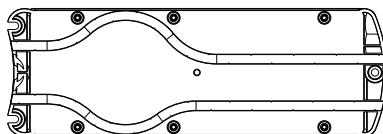
The plug must be visible when the CBD is mounted so that the supply to the CBD can be disconnected at replacement, if any.

The mounting screws on the control box must be fastened with a max. torque of 1 Nm.

The mounting surface to which the control box is attached should have a surface evenness of better than ± 0.5 mm.

CBD6 - bottom with cable grooves

The bottom of CBD6 is equipped with two cable grooves improving the cable management when mounting. The grooves can be used to bypass the CBD for both motorcables and the mains cable (EU version only) from one side to the other, giving a cleaner design.



Remember to lead the cables through the grooves before mounting the control box.

For mounting and operation of the desk panel, please see the separate user manual for desk panels.

Electrical connection of the DL2 with control box

The system is to be connected as shown on figure 3. Each DL2 is to be connected to the sockets on the control box by means of the motor cables, which have a 6-pin plug in each end.

 Finally the mains cable is to be mounted and power switched on. Please note that the control box must only be connected to the voltage stated on the label.

CBD4/CBD5/CBD6 with earth

The CBD4/CBD5/CBD6 earth cable to be mounted on the desk construction (typically the top frame) in a way that ensures good electrical contact. The function of the earth cable is to earth the desk and ground static electricity. The earth connection does not protect other electrical products.



CBD4 with mains cutoff (non ZERO models)

If the power cable is damaged it has to be replaced by an authorized LINAK service centre to avoid any danger.

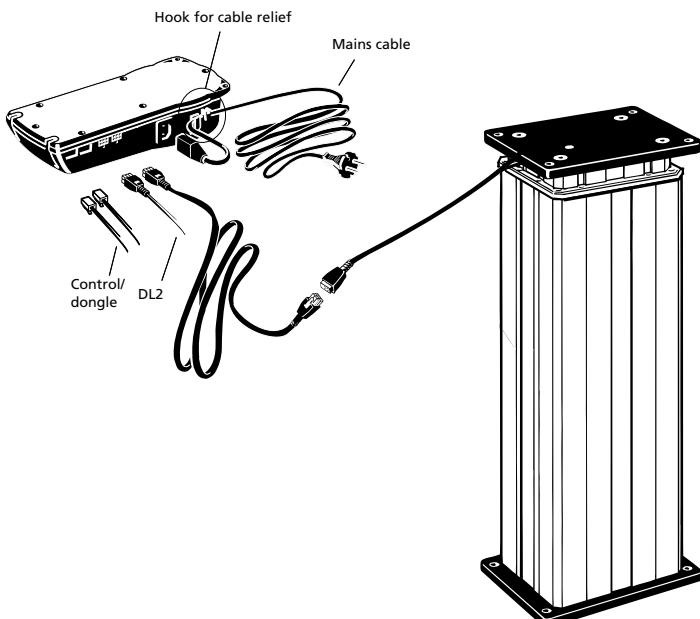
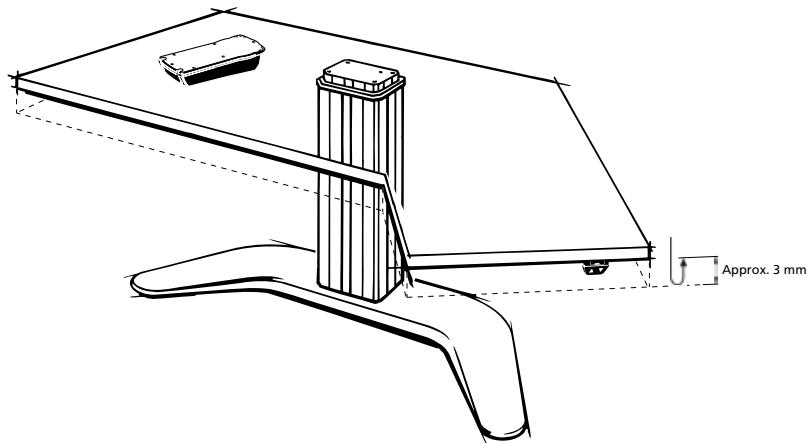


Figure 3

Initialisation of the DL2 with control box

Press the down button and the legs/actuators run down to the “end-stop position”.



Disposal of LINAK's products

As LINAK's customers often ask us how our products can be disposed of or scrapped we have prepared this guidance that enables a classification to different waste fractions for recycling or combustion.

Guidance

We recommend that our products be disassembled as much as possible and divided into different waste groups for recycling or combustion.

For example, waste can be sorted into metals, plastics, cable scrap, combustible material, and recoverable resources.

Some of these main groups can be further divided into subgroups; e.g. metal can be divided into steel/aluminium/copper and plastic can be divided into ABS/PA/PE/PP.

As an example, the table below breaks down the different components in LINAK products to various recycling groups:

Product	Components	Recycling group
Columns/ Actuator :	Spindle and motor Plastic housing Cable PCB boards	Scrap Plastic recycling or combustion Cable scrap or combustion Electronics scrap
Control Box :	PCB boards Plastic housing Cable Transformer	Electronics scrap Plastic recycling or combustion Cable scrap or combustion Metal scrap
Handset/ Control :	Plastic housing Cable PCB board	Plastic recycling or combustion Cable scrap or combustion Electronics scrap

By now almost all our casted plastic parts are supplied with an interior code for plastic type and fibre contents, if any.

Main groups of disposal

Product main groups	Metal Scrap	Cable scrap	Electronics scrap	Plastic recycling or combustin	Comments
DL2	X	X	X	X	
CBD4/CBD5/ CBD6	X	X	X	X	
DPXX		X	X	X	
WDPL		X	X	X	

Disposal of batteries.

"Details regarding safe disposal of used and leaking batteries:

Batteries should be disposed in accordance with appropriate federal, state and local regulations. LINAK recommends that used or leaking batteries are disposed through local recycling system. Please do not throw used or leaking batteries in normal household waste or in nature. This will cause damage to the environment.

How to deal with leaking batteries.

Leaking batteries should be disposed as described above.

If leaking batteries are discovered in the product the batteries must be removed at once to minimise damage to the product. If leaking batteries are left in the product it might become defect.

It is recommended to use plastic gloves when handling leaking batteries. The contents of a leaking batteries can cause chemical burns and respiratory irritation.

If exposed to the contents of a leaking battery, please wash with soap and water. If irritation persists, please seek medical attention. In case of eye contact, please flush eyes thoroughly with water for 15 minutes and seek medical attention."

Label for DL2



Label for CBD4



Label for CBD5

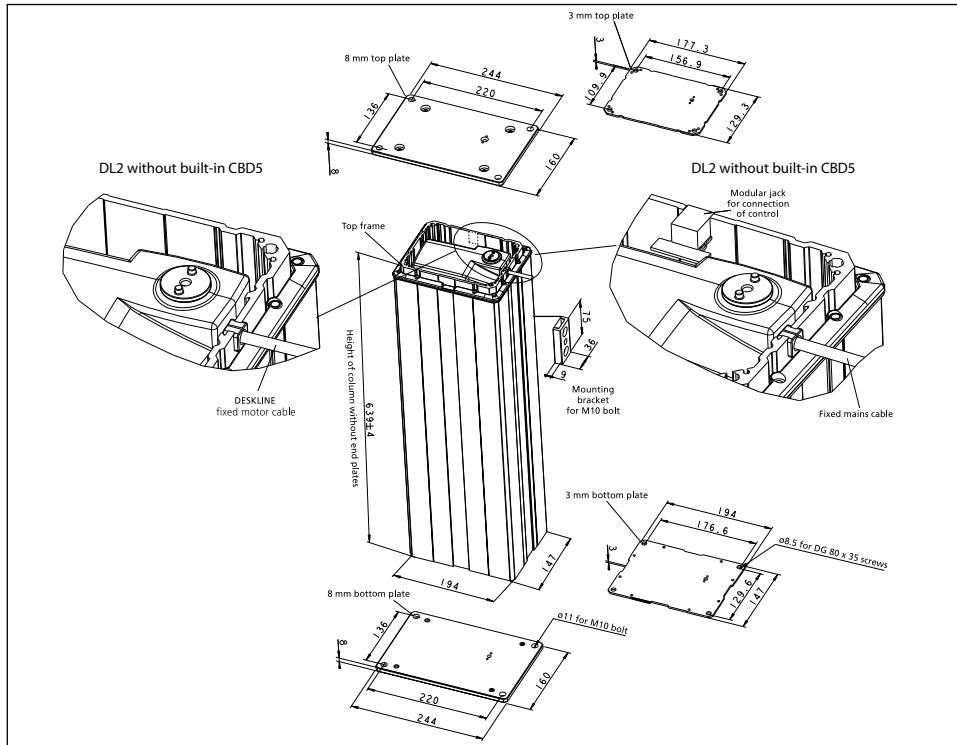


Label for CBD6

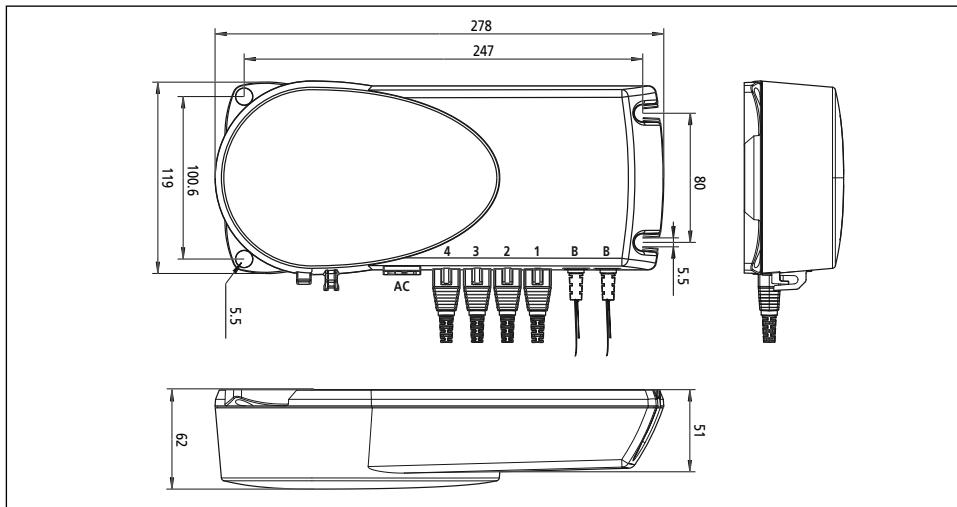


DRAWING APPENDIX

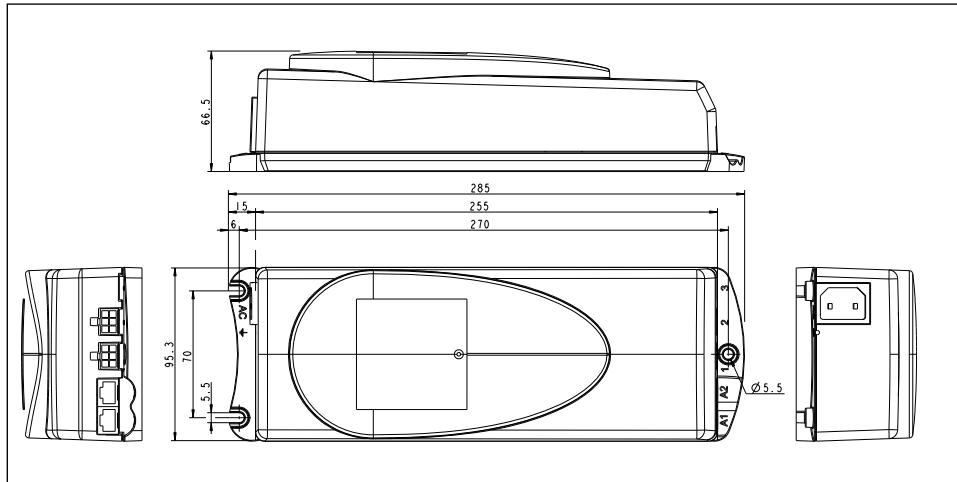
DL2 Lifting Column



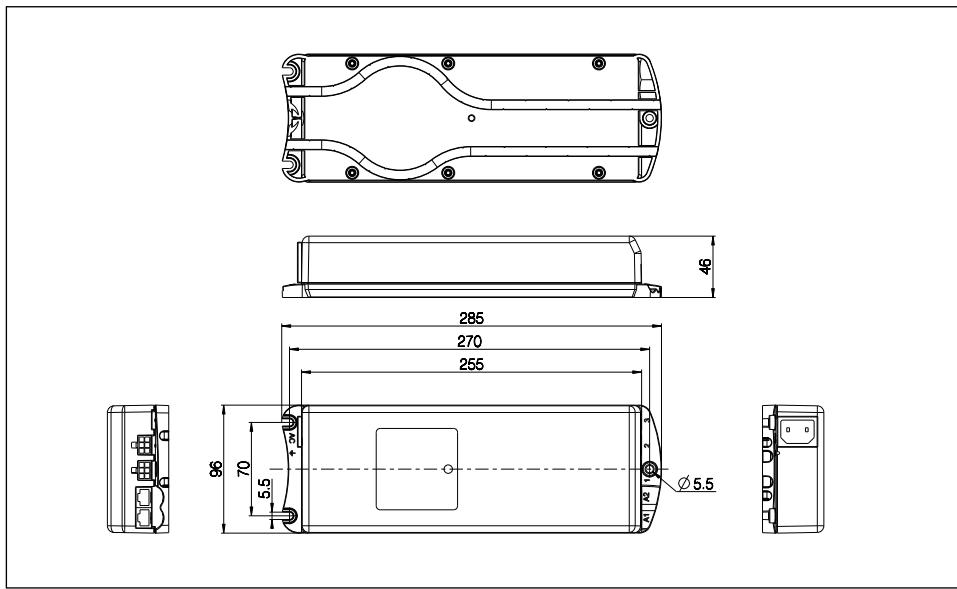
CBD4



CBD5



CBD6





DECLARATION OF CONFORMITY

LINAK A/S
Smedevanget 8
DK - 6430 Nordborg

hereby declares that LINAK Actuator System composed of

Control Box(s) CBD4, CBD5, CBD6

And

Linear Actuator(s) 31xxH-xxxxx50S, DB4, DB5, DB6, DB7, DB9, DB14, DB16 and / or

Lifting Column(s) DL2, DL4, DL5, DL6, DL7, DL8, DL9, DL10, DL11, DL14, DL15, DL16

And

Desk Panel(s) DP1C, DP1K, DPT, DPB, DPF, DPBK, DP1L, DP1V, DPA, DPH, WDPL1 and / or

Handset(s) HB2xxF2+00003

complies with the EMC Directive 2004/108/EC according to following standards:
EN 61000-6-1:2001, EN 61000-6-3:2001, EN 55022:1998+A2 Class B,

and complies with Low Voltage Directive 2006/95/EC according to the standard:
EN 60335-1:2002+A1+A12+A2

and complies with Machinery Directive 2006/42/EC according to the standard:
EN 13849-1:2006 SR/PCS Cat. B, PL = b and SRESW PL = b

And
Controls:

RF-transmitter HB1XRFXXXX
RF-transmitter HB2XRFXXXX
RF-receiver RFRL

and/or

complies with the Radio equipment and Telecommunications terminal equipment Directive 1999/5/EC:
EN 300220-2:2006, EN 61000-6-1:2007, EN 61000-6-3:2007,
EN 60335-1:2002+A1:2004+A11:2004+A12:2006+A2:2006+A13:2008, EN 62311:2008

Nordborg, 2011-03-21

LINAK A/S
John Kling, B.Sc.E.E.
Certification and Regulatory Affairs
Authorized to compile the relevant technical documentation

LINAK APPLICATION POLICY

The purpose of the application policy is to define areas of responsibilities in relation to applying a LINAK product defined as hardware, software, technical advice, etc. related to an existing or new customer application.

LINAK products as defined above are applicable for a wide range of applications within the Medical, Furniture, Desk and Industry areas. Yet, LINAK cannot know all the conditions under which LINAK products will be installed, used, and operated, as each individual application is unique.

The suitability and functionality of the LINAK product and its performance under varying conditions (application, vibration, load, humidity, temperature, frequency, etc.) can only be verified by testing, and shall ultimately be the responsibility of the LINAK customer using any LINAK product.

LINAK shall be responsible solely that the LINAK products comply with the specifications set out by LINAK and it shall be the responsibility of the LINAK customer to ensure that the specific LINAK product can be used for the application in question.

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Terms of use

The user is responsible for determining the suitability of LINAK products for specific application. LINAK takes great care in providing accurate and up-to-date information on its products.

However, due to continuous development in order to improve its products, LINAK products are subject to frequent modifications and changes without prior notice. Therefore, LINAK cannot guarantee the correct and actual status of said information on its products.

While LINAK uses its best efforts to fulfil orders, LINAK cannot, for the same reasons as mentioned above, guarantee the availability of any particular product. Therefore, LINAK reserves the right to discontinue the sale of any product displayed on its website or listed in its catalogues or other written material drawn up by LINAK.

All sales are subject to the Standard Terms of Sale and Delivery for LINAK. For a copy hereof, please contact LINAK.